

# PLANS FOR A DEEP WATER CHANNEL TO THE SOUND

## Battleships Will Have Another Entrance to New York Harbor if Col. Black's Ideas Are Carried Out, and a Blockade by an Enemy's Fleet Would Be Made Practically Impossible.

The commercial and maritime interests of this port have organized to urge Congress to appropriate money for realizing the scheme of Col. William M. Black of the Corps of Engineers of the United States army for making the harbor of New York and the East and North rivers navigable to liners of the first class. It is not likely that the Olympic, the Lusitania and the uncreated Imperator of the Hamburg-American Line will be able to take passage through the East River and Sound after the extended dredging and blasting proposed by Col. Black, but any American built passenger ship or freighter could run without peril from the Battery through river and Sound to the sea.

From the viewpoint of Col. Black this proposed deepening and widening of the East River will make the blockade of this port by an enemy's ships practically impossible, because the fleets of the enemy would have to guard two entrances to the sea, that in the neighborhood of the Hook and that in the neighborhood of Block Island. It would require double the number of ships to make the blockade effective.

The most important part of the work that the Engineer Corps hopes to be permitted by Congress to do is in the swift and treacherous currents of Hell Gate and Little Hell Gate. Col. Black and his assistants have made a special study of these turbulent waters. Col. Black said yesterday:

"Little Hell Gate and Harlem Kills Channel are so badly obstructed by rocks that there is a marked difference in their discharge capacity at low water and at high water.

"At low water the flow is northerly, or from the lower East River and the Harlem River toward the Sound. At high water the flow is southerly, or from the Sound through the lower East River and Harlem River.

"As might be inferred from the tidal curves, there is but slight circulation in the Harlem River between the Harlem Kills and the south end of Ward's Island. It is evident that if these two minor channels had greater discharge capacity the difference of head between the upper and lower reaches of the East River and the resulting high velocities would be reduced.

"To determine whether it would be possible with a reasonable increase in cross section of these minor channels to make any appreciable or valuable reduction in the Hell Gate current velocity and also what would be the effect on the Harlem River a study was made of the discharge through the gorge in the main channel opposite Ward's Island and of the discharges through Little Hell Gate and Harlem Kills channels at the various tidal stages, as well as of the Harlem River.

"It was found that if the Harlem Kills were somewhat straightened and given a cross section 480 feet wide and 24 feet deep and Little Hell Gate a cross section of 600 feet wide and 24 feet deep the maximum velocities of the mean tide in Hell Gate would be reduced by 20 per

cent, for northbound currents and 25 per cent, for southbound, or 1.7 miles an hour and 2 miles an hour respectively. The resulting maximum northerly and southerly currents in Hell Gate for the mean tide would then be six and three-quarter miles an hour and six miles an hour respectively, about the same as found in other sections of the East River.

"The circulation in the lower Harlem between the Harlem Kills and the south end of Ward's Island would be increased markedly and the unsanitary conditions now prevailing there would be improved. The deposit of silt would be decreased and the maintenance of the channel assisted.

"The cost of forming these channels would be about \$21,500,000. The Harlem Kills opening would afford a short and safe passage between the Harlem and the upper East River. There is need of this communication and this need will be increased by the opening of the New York State Barge Canal.

"To give a proper direction and width to the new Harlem Kills channel a strip of upland, mainly marsh land, would have to be removed from the northeast face of Randall's Island. This land is the property of the State of New York and I am informed by the heads of the departments of docks and charities that the resulting benefit to the city would be so great that it would offer no objection to this.

"The rectification of this channel would enable the bulkhead line in the north side to be thrown out from shore for a portion of its length and thus give the city, which owns the submerged land, an opportunity to reclaim land of greater relative value than that given up on Randall's Island. And this would make Little Hell Gate, now not much use for navigation, navigable.

"At present at the East River end Little Hell Gate has two mouths and is fed and discharged mainly through the channel between the Sunken Meadows and Randall's Island. It would be advantageous were the flow concentrated into the channel between the Sunken Meadows and Ward's Island, and this could be accomplished if the mouth of the channel were properly formed and directed. It would be necessary to build a bulkhead taking in the Sunken Meadows and to excavate the marsh land outside.

"The submerged land within could be filled and such an operation would reclaim land of great value and make an addition to the area of Randall's Island that I am informed by the Commissioner of the Department of Charities, is greatly needed. The Commissioner tells me also that the city of New York would undertake the work were it so authorized, as it is now the owner of the submerged land and claims title to the Sunken Meadows."

Col. Black said that by increasing the depth and width of the East River channels owners of steam craft, both American and foreign, would be able to run them with less expense. As is well known it is more difficult to get speed out of a ship in shallow water than in deep. As an illustration, the Colonel said the same

expenditure of fuel power that might drive the Mary Powell twenty-two miles with a depth of a hundred feet under her keel would drive her less than twelve where there was a drag due to the shallowness. He called attention to the time and fuel lost through the waiting of tugs and their tows for the proper tide at Hell Gate to enable them to navigate the dangerous current with safety.

Col. Black unfolded his plans to some extent in a recent public hearing in the City Hall by the commission, consisting of R. A. C. Smith, State Engineer John S. Bessel and Dock Commissioner Calvin Tomkins, appointed by Gov. Dix to investigate the conditions of the port. Col. Black said then there were three questions on which he wanted enlightenment from the commission and the commercial bodies represented at the hearing: First, did New York need more than a twenty-six foot channel? Second, whether a thirty foot channel would be sufficient, and third, whether a thirty-five foot channel might not be desirable, and if so, would the expenditure be justified by the increase in traffic?

These were things that he would have to submit to his supporters at the War Department in his report, which probably would be turned in within a week or so. He had consultations with the Dock Department and found that they wanted a thirty foot depth as far as Blackwell's Island and a twenty-six foot depth in the east channel at Blackwell's Island.

The cost of giving a thirty foot access along the Manhattan and Brooklyn fronts, including the elimination of Corleas Hook shoal, would be about \$11,144,000. The total cost of making the improvements if a thirty-five foot channel were desired would be \$32,432,000.

North River conditions were considerably different from those of the East River. The North River mud bed was very stable. There were, however, many shoals which it would be necessary to remove to give better docking facilities on the North River and particularly the Hoboken side, where the German ships tie up.

A shoal that had caused considerable damage to shipping and which it would be necessary to blast, as it is of rock foundation, was off the Battery. The Colonel estimated that this could be removed without much trouble. He estimated that it would require \$137,941 to remove the shoal on the New York shore extending from Nineteenth to Thirty-second streets. He estimated the total cost of improving the navigability of the North River at \$1,437,000.

Naturally Col. Black could not make known his recommendations to the Secretary of War until after his report has been turned in and he receives permission to publish it. It is likely, however, that he may advocate the thirty-five foot channel. As an army man he doubtless would be desirous of having the whole Sound navigable for battleships of the greatest draught.

At the hearing in the City Hall a number of men representing commercial and maritime organizations were in favor of the 30 foot channel. Frederick B. Dalzell, president of the National Board of Steam Navigators, said he believed the Sound, which he called the back door entrance of New York, should have the same channel facilities as Sandy Hook and the Narrows. Representatives of the West Side Harlem Board of Trade were in favor of the East River improvement plan, saying they needed a direct line from the Hudson to the Sound to accommodate the new traffic that was sure to develop after the completion of the barge canal. It would relieve congestion at the Battery and give a shorter haul.

Former Congressman William S. Bennet said that the committee that was appointed to urge the necessity of the improvements would have to hustle if it wanted to get appropriations from Congress. He said Congress recognized that appropriations should go where business went. The movement should be made citywide and all interests should get behind Col. Black in his advocacy of the work.

The result of the City Hall hearing was the appointment of a special committee that will make efforts to persuade Congress to grant the appropriation. The committee is composed of E. H. Outerbridge, chairman; Alexander R. Smith of the Merchants Association, Bernard Goodman of the Greater New York Taxpayers Association, Oscar Theiss of the Harlem Board of Trade, Olin J. Stephens of the North Side Board of Trade, Joseph A. Goulden, Frederick B. Dalzell, Harold N. Phillips of the Greater New York Taxpayers Association, C. H. Callahan of the Maritime Association, Capt. Warden of the United City Board of Queens and James Ellwell of the Bronx League.

Col. Black, incidental to his investigations, made a thorough study of currents and tides in the vicinity of Hell Gate. He says in regard to these:

"The tidal wave coming from the Atlantic is retarded in its passage through

Long Island Sound four hours. That is, the time of high water at Sandy Hook is four hours earlier than the time of high water at Throgs Neck. The wave arriving at Sandy Hook is transmitted through the lower and upper bays and thence to the East River at Hell Gate by

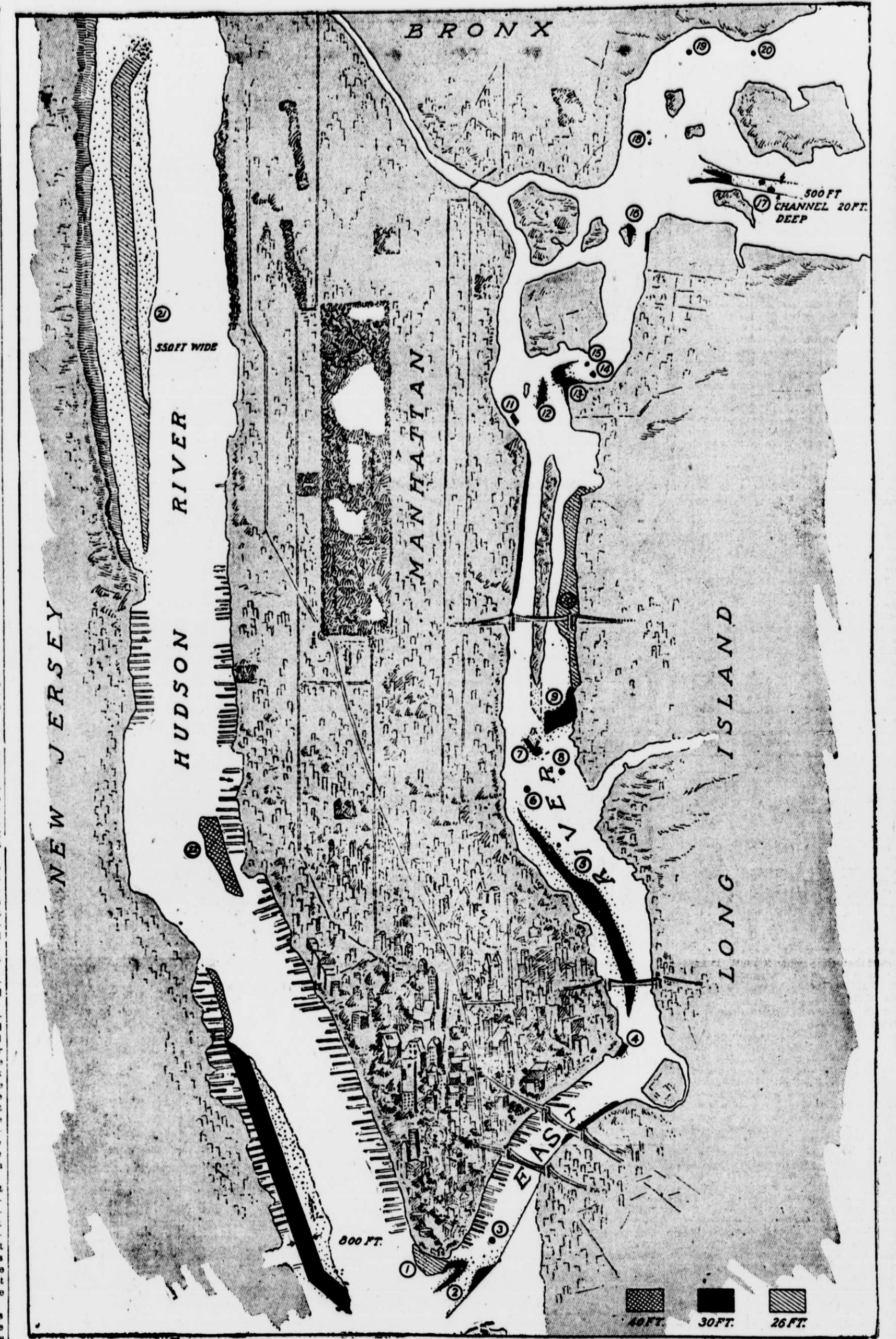
two routes, one direct through the East River and the other by way of the Hudson and Harlem rivers.

"There has been an impression that currents impinge. This is not so. Wave motion is simply up and down or vertical. The currents move horizontally. It is

evident that waters moving horizontally acquire a certain living force and that if an impediment to the movement is met this force will be extended in a vertical movement, causing increase of depth.

"If the impediment is impassable the water surface will continue to rise until

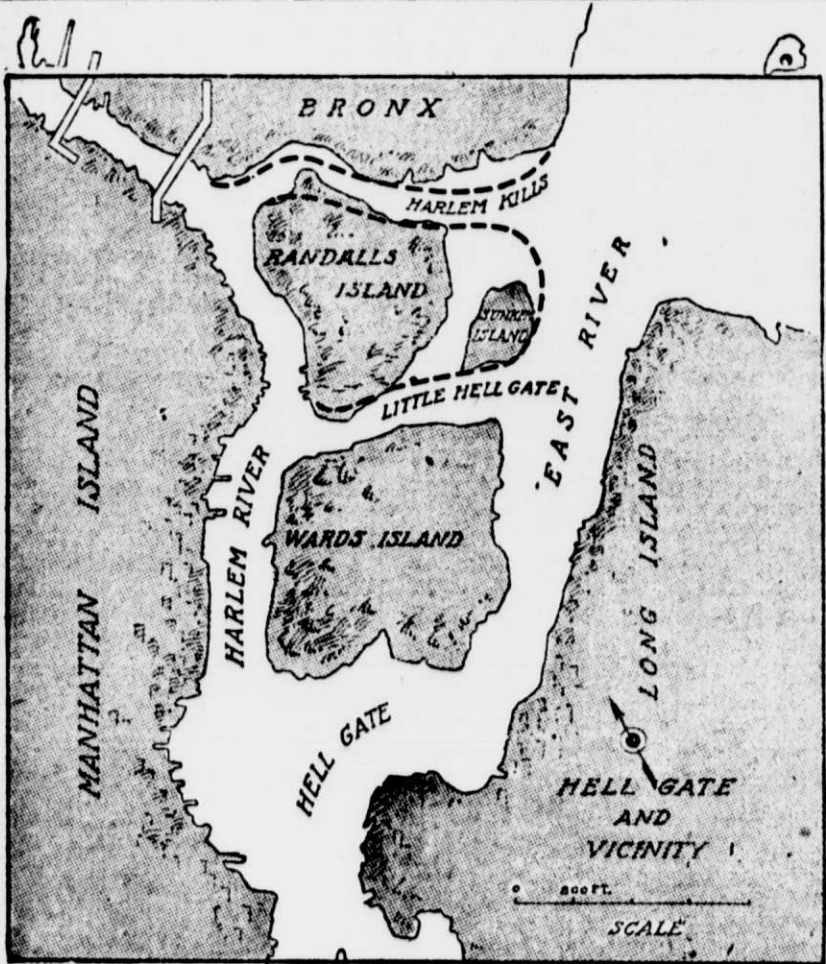
the living force is exhausted. If the impediment is simply a narrowing of channel the rise will be continued until the increase of slope toward the outlet is great enough to increase the velocity of the outflowing current to a point sufficient to afford the requisite discharge."



BIRDSEYE VIEW OF RIVERS, SHOWING PROPOSED IMPROVEMENTS.

THE POINTS WHERE THE CHIEF DREDGING AND CHANNEL ALTERATIONS WILL BE MADE ARE INDICATED BY NUMBERS:

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|--|--------------------|------------------------|--------------------------|
| 1—South Ferry and Battery Reefs.                                     | 6—Ferry Reef.      | 11—Rhinelander's Reef. | 16—Middle Ground.        |
| 2—Diamond Reef.  | 7—Man o' War Reef. | 12—Middle Reef.        | 17—Five o'Clock Channel. |
| 3—Coenties Reef.   | 8—Rock.            | 13—Reef.               | 18—Rock.                 |
| 4—Corleas Hook Reef.   | 9—Shoal.           | 14—May's Reef.         | 19—Rock.                 |
| 5—Shell Reef.  | 10—Shoal.          | 15—Pot Rock.           | 20—Rock.                 |
| 21—Shoal (channel here to be made 550 feet wide from pierhead line). |                    | 22—Shoal.              |                          |



DETAILS OF PROPOSED IMPROVEMENTS AROUND HELL GATE.

## INTERESTING HANDICRAFT OF PHILIPPINE SCHOOL CHILDREN ON EXHIBITION

There is an exhibit now on view at the educational museum of Teachers College showing the industrial work of pupils of the Philippine schools. The material was prepared by the Bureau of Education of the Philippine Islands.

The manufacture of articles in the household gives to Philippine industrial education a practical point of view not found in other countries. The proportion of population employed in factories is very small. Cloth, furniture, kitchen utensils and the like are made by each family for its own use. Hats, mats, slippers, cloth and similar materials are made in the homes and sold through brokers into both domestic and foreign trade. There is room for improvement in the manufacture of these products and for the enlargement of the field, and these have been the objects of the industrial education movement.

One of the most interesting of the products exhibited is the embroidery which fills one case. Embroidery is made throughout the islands as a house product for family use. Sometimes a small amount may be sold locally, and in all the large cities there are women who make a living by doing embroidery to order.

There is a large export of embroidery from Paranaque, Rizal province, and Manila, the last being typical of the work of the islands.

Nearly is the case containing lace such as is produced in the schools throughout the islands. Pillow lace is made everywhere, while other forms are the peculiar products of certain localities. Experiments with abaka fibre in lace making have just begun. An attempt has been made to introduce Irish crochet work, and there are a few pieces of this kind of lace exhibited.

The case for mats contains the most important of articles, for in the Philippines mats are used for sleeping purposes, for baling and holding abaka, tobacco, sugar and rice, as well as for floor and wall decorations in homes of foreigners. The Bureau of Education purposes to work at improving the colors and designs of mat making so as to better those used locally and to create an export trade.

The buri mat is the one chiefly used in the Philippines and its weaving is taught throughout the islands. The mats from Romblon are considered the best from the standpoint of material, color and design. The sabutan mat,

made in Rizal province, is strong and easily dyed, being made from the best material that the islands offer for this purpose. Buri-rafia matting is woven in Bohol on textile looms, and the schools have been active in improving the industry. The matting sample on exhibit, which was made at the Normal School in Manila, illustrates the progress already made in bettering matting materials.

Two cases are required for the showing of the textile work now being carried on in the Philippine schools. Throughout the islands the upper part of the native costume is an article called a sinamay, which is made from stiff cloths heavily starched in the laundry. The strongest kind of this material is woven from abaka usually with stripes of cotton. Coarser grades are employed for mosquito nets and fishing nets and have an extensive sale in the bazaars.

Sinamay is also woven from raw silk and pineapple fibre, either alone or in combination, the cloth usually having a cotton pattern woven in. Imported cotton prints are most often used for the skirt of the costume, the material coming from England, Japan and America. Much of

the cotton cloth now woven in the islands is produced from foreign yarns, for cotton is not being so extensively grown in the islands as formerly.

The weaving industry is very important throughout the Ilocos provinces. Raw silk, imported from China, is used, not only in sinamay, but also in the production of a fine dress material resembling bolting cloth known as jusi and used by the native women for scarfs and foreign women for dresses. Little pure silk is woven, as cotton enters into the weaving of nearly all the silk textiles.

Experiments are now being carried on by the bureau of education in connection with the bureau of agriculture and science in the hope of introducing silk culture. The finest textile is the pina cloth, woven of pineapple fibre, which is much in demand for export and is peculiar to the islands, though little used by the natives. Coarse buri rafia cloth is used for baling tobacco, an important industry, and the more closely woven colored cloths, originating in the schools of Bohol, are valuable for upholstery. All of these textiles are woven on hand looms, of which there are several types and in the improvement of which experi-

ments are being carried on by the bureau as well as in the improvement of the textiles themselves.

There is a case containing a display of hats, one of the important exports of the Philippines, over 1,000,000 hats having been exported in 1910. The bamboo hat is the principal export hat of the island and several schools in various parts of the islands have interested themselves in its production.

The common single straw and double ply buri hats are made commonly throughout the islands. The four ply hat lately has been introduced into the schools and makes an excellent straw hat for sailors. The sabutan hat was woven commercially in only one town a few years ago, but the schools have been so active in spreading this industry that the plants are now cultivated and hats are woven in many localities, although still held as a school industry primarily. This kind of all those made in the Philippines is probably the best for tropical wear.

Hat and mat straws are also used for a small local production of cigarette and cigar cases. Requests recently have come from the United States for cases of this

kind to be used for pocketbooks, and the bureau has succeeded in adapting several new kinds to the purpose.

Among some of the other interesting specimens of handicraft on view are the lippers, the making of which originated in the schools and for which native materials are used rather than imported leather or plush. Near by is a case of baskets, an industry which is as yet of little importance in the Philippines, although a few rude rice baskets are made in the homes for immediate use.

Investigation has gone to show that there are distributed through the islands many materials excellent for basketry and plans are being made to foster production along this line. In comparison with the recent examples collected from the Government schools, an exhibit of baskets which the Educational Museum purchased from the Philippine exhibit at St. Louis at the time of the world's fair there is interesting. Basket weaving in the schools has now reached its greatest development in Albay and Sorsogon provinces and the types originated there are being quickly introduced throughout the islands. The use of natural colored materials is particularly encouraged.

Industrial education in the Philippines has divided itself into several phases. First, of course, it has been found necessary to determine the plants which yield the material suitable for the production of articles in the schools; and then to ascertain as far as possible the uses of these plants and their distribution through the islands. Botanical specimens of the most important plants are included in the exhibit.

Having determined the plants, their distribution and the material prepared from them, it has been found necessary to locate the present household industries, to study them with a view to their extension and improvement and to make an investigation of economic and social conditions with a view to determining the localities in which the various industries, both old and new, can be introduced.

The Practical Girl.

From the Somerville Journal.

He—You are the prettiest girl I ever saw.  
She—That sounds all right, but I don't know how much the compliment is worth until you tell me how many pretty girls you have seen.